

We claim:

1. A dicing tape applying apparatus applying a dicing tape to a wafer to be diced, comprising a stage retaining the wafer, a dicing tape supply mechanism able  
5 to set both a non-cut dicing tape and a pre-cut dicing tape and supplying the set non-cut dicing tape or the set pre-cut dicing tape, a pre-cut dicing tape edge position detector detecting the edge position of the pre-cut dicing tape when the pre-cut dicing tape is supplied from  
10 the dicing tape supply mechanism, an applying apparatus applying the non-cut dicing tape or the pre-cut dicing tape supplied from the dicing tape supply mechanism to the back of the wafer, and a cutter cutting the non-cut dicing tape into a desired shape when the non-cut dicing  
15 tape is applied.

2. A dicing tape applying apparatus, as set forth in claim 1, wherein the non-cut dicing tape and the pre-cut dicing tape comprise a dicing tape and a die bonding tape, and wherein the back of the wafer is bonded to the  
20 dicing tape via the die bonding tape.

3. A dicing tape applying apparatus, as set forth in claim 1, wherein a protective tape is applied to the surface of the wafer, to which the dicing tape is to be applied by the applying apparatus, and wherein a  
25 protective tape peeling mechanism is further provided for peeling off the protective tape after applying the dicing tape to the wafer.

4. A dicing tape applying apparatus, as set forth in claim 2, wherein a protective tape is applied to the  
30 surface of the wafer, to which the dicing tape is to be applied by the applying apparatus, and wherein a protective tape peeling mechanism is further provided for peeling off the protective tape after applying the dicing tape to the wafer.

5. A dicing tape applying apparatus applying a dicing tape to a wafer to be diced, comprising a stage retaining the wafer, an applying mechanism applying the  
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dicing tape to the back of the wafer, and a protective tape peeling mechanism peeling off the protective tape applied to the surface of the wafer after applying the dicing tape to the wafer.

5           6.    A back-grinding/dicing tape applying system, comprising a polishing/back-grinding apparatus for thinning a wafer by grinding and polishing the back of the wafer, on the surface of which semiconductor circuits are formed and to the surface of which a protective tape  
10           is applied, a dicing tape applying apparatus applying a dicing tape to the back of the thinned wafer, wherein the dicing tape applying apparatus peels off the protective tape after applying the dicing tape.

15           7.    A back-grinding/dicing tape applying system, as set forth in claim 5, wherein the dicing tape applying apparatus is the apparatus set forth in claim 1.

8.    A back-grinding/dicing tape applying system, as set forth in claim 5, wherein the dicing tape applying apparatus is the apparatus set forth in claim 2.

20           9.    A back-grinding/dicing tape applying system, as set forth in claim 5, wherein the dicing tape applying apparatus is the apparatus set forth in claim 3.

25           10.   A back-grinding/dicing tape applying system, as set forth in claim 5, wherein the dicing tape applying apparatus is the apparatus set forth in claim 4.

30           11.   A back-grinding/dicing tape applying system, comprising a back-grinder for thinning a wafer by grinding the back of the wafer, on the surface of which semiconductor circuits are formed, a dicing tape applying apparatus arranged adjacent to the back-grinder and applying a dicing tape to the back of the thinned wafer, and a conveying mechanism conveying the thinned wafer from the back-grinder to the dicing tape applying apparatus.